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EXAMINER	
MOORE, JAMES K	

ART UNIT	PAPER NUMBER
2686	33

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/287,264	AGIN ET AL.	
	Examiner	Art Unit	
	James K Moore	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-18,21,25-43,46-50 and 58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2-18,21,25-27,32 and 35* is/are allowed.

6)☒ Claim(s) *28-31,33,34,36-43,46,48,49 and 58* is/are rejected.

7)☒ Claim(s) *47 and 50* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed December 29, 2003 with respect to claims 28-31, 33, 34, 36-43, 46, 48, 49 and 58 have been fully considered but they are not persuasive.

Regarding claims 28-31, 34 and 38-42, the applicant continues to assert essentially that Vembu does not disclose "estimating if a criterion is met", because Vembu discloses comparing a signal-to-noise ratio that is actually measured to a nominal level. However, this argument is still unpersuasive. One of ordinary skill in the art recognizes that a signal-to-noise ratio cannot be perfectly measured and thus the measurement requires some degree of estimation.

Similarly, the applicant argues that Haartsen does not disclose "estimating if a criterion is met", because Haartsen actually measures RSSI values, computes an average, and compares the average to a threshold value. However, the measurement of RSSI values is imperfect and thus also requires some degree of estimation.

The applicant also argues that Haartsen is not directed to determining whether a power control algorithm should be turned on or off. However, the examiner disagrees, because Haartsen clearly discloses that unit B will not transmit a power control command to unit A if a mathematical difference value is small. See Figure 4 and col. 7, lines 1-6. The process of unit B transmitting a power control command and unit A adjusting a transmit power level in response may be reasonably characterized as a power control algorithm.

Regarding claims 28, 43 and 58, the applicant argues that Kansakowski does not disclose using an open-loop algorithm during de-activation. However, the examiner disagrees. In claim 1, Kansakoski discloses "selectively deriving power control commands based on one of first power control commands or second power control commands in response to the determined mobility of the mobile station, said second power control commands including open loop power control commands." See lines 35-40. Kansakoski further discloses that "in high Doppler conditions... closed loop power control results in degraded E_b/N_t performance" (see col. 8, lines 10-15), that "by selectively disabling the derivation of power control commands based upon the received signal when, for example, the mobile station is moving at a velocity that exceeds a "high" velocity threshold (as determined from the Doppler condition of the mobile station), then link performance is improved" (see col. 8, lines 29-34), and that when the derivation of power control commands based upon the received signal is disabled, "the modified power control block allows the mobile station to send default or modified power control commands" (see col. 11, lines 41-67).

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 28-31, 34, and 38-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Vembu (U.S. Patent No. 6,185,432).

Regarding claim 28, Vembu discloses a method for improving performances of a mobile radiocommunication system using a power control algorithm (tracking mode algorithm). The method comprises regularly estimating if a criterion is met (received signal-to-noise ratio is below a nominal level) as to whether the power control algorithm should better be de-activated, and de-activating the power control algorithm if the criterion is met. The de-activation includes performing a different type of algorithm (burst mode algorithm) than the power control algorithm. The different type of algorithm (burst mode) inherently shows better performances than the algorithm (tracking mode) in fast changing environments because it uses larger power control increments. See col. 4, lines 18-57; col. 6, lines 18-67; and Figure 3. It is well known in the art that a power control algorithm using larger power control increments performs better in a fast changing environment than a power control algorithm using smaller power control increments. See, for example, Lokio (U.S. Patent No. 6,272,355), Abstract, col. 4, lines 15-42, and col. 5, lines 11-26.

Regarding claim 29, Vembu discloses everything claimed as applied to claim 28 above, and additionally discloses that the power control method comprises: regularly estimating if the criterion is met as to whether the power control algorithm should better be deactivated, when activated, or activated, when deactivated; and deactivating, or activating the power control algorithm if the corresponding criterion is met. See col. 4, lines 18-57, col. 6, lines 18-67, and Figure 3.

Regarding claim 30, Vembu discloses everything claimed as applied to claim 28 above, and additionally discloses that the power control method includes a provision

which prevents the algorithm from deactivating or activating too frequently: modification of the signal-to-noise ratio threshold to be a range of values, rather than a single value. See col. 7, lines 1-6.

Regarding claim 31, Vembu discloses everything claimed as applied to claim 28 above, and additionally discloses that estimation as to whether the criterion is met is based on an estimation of a deviation value, representative of a deviation between an estimated transmission quality (signal-to-noise ratio of a received signal) and a target transmission quality (signal-to-noise threshold value). See col. 4, lines 18-57 and col. 6, lines 18-67.

Regarding claim 34, Vembu discloses everything claimed as applied to claim 31 above, and additionally discloses that the estimated transmission quality is represented by a received signal power (signal-to-noise ratio). See col. 4, lines 18-57 and col. 6, lines 18-67.

Regarding claim 38, Vembu discloses everything claimed as applied to claim 28 above, and additionally discloses that the power control method may be implemented in any communication system and further mentions the use of power control methods in CDMA communication systems. See col. 1, lines 36-53 and col. 3, lines 32-40.

Regarding claims 39 and 41, Vembu discloses everything claimed as applied to claim 28 above, and additionally discloses a mobile radiocommunication network entity/mobile station (104A) comprising, for performing the power control method: means (112A) for performing the method, and means (108A) for sending corresponding

power control commands to a mobile station/network entity (104B). See col. 4, lines 18-57 and col. 6, lines 18-67.

Regarding claims 40 and 42, Vembu discloses everything claimed as applied to claim 28 above, and additionally discloses a mobile station/network entity (104B), comprising, for performing the method: means (112B) for receiving power control commands from a mobile radiocommunication network entity/mobile station (104A), according to the method. See col. 4, lines 18-57 and col. 6, lines 18-67.

4. Claims 28, 43 and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Kansakoski et al. (U.S. Patent No. 6,377,813).

Regarding claim 28, Kansakoski discloses a method for improving performances of a mobile radiocommunication system using a power control algorithm (a closed loop power control algorithm). The method comprises regularly estimating if a criterion is met (estimating whether a mobile station's velocity has reached a predetermined level) as to whether the power control algorithm should better be de-activated, and de-activating the power control algorithm if the criterion is met. The de-activation includes performing a different type of algorithm (an open loop power control algorithm) than the power control algorithm. See col. 3, line 49 through col. 4, line 13 and claim 1. The different type of algorithm shows better performances than the algorithm in fast changing environments and high mobile speed. See col. 8, lines 8-17.

Regarding claim 43, Kansakoski discloses all of the limitations of claim 28, and also discloses that the power control algorithm is a closed loop algorithm, and the

different type of algorithm is an open loop algorithm. See col. 3, line 49 through col. 4, line 13 and claim 1.

Regarding claim 58, Kansakoski discloses a method for improving performances of a mobile radiocommunication system using a power control algorithm (a closed loop power control algorithm). The method comprises regularly estimating if a criterion is met (estimating whether a mobile station's velocity has reached a predetermined level) as to whether the power control algorithm should better be de-activated, and de-activating the power control algorithm if the criterion is met. The de-activation includes performing a different type of algorithm (an open loop power control algorithm) than the power control algorithm. See col. 3, line 49 through col. 4, line 13 and claim 1.

5. Claims 46 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Haartsen et al. (U.S. Patent No. 6,519,236).

Regarding claim 46, Haartsen discloses a method for improving performances of a mobile radiocommunication system using a power control algorithm (the power control algorithm comprises sending power control commands to a sending unit A, and changing the transmission power of sending unit A based on the commands). The method comprises regularly estimating whether a criterion is met as to whether the power control algorithm should better not be performed (estimating a RSSI and determining whether it is close to a target value), and not performing any power control algorithm in accordance with a result of the estimating step. The estimation as to whether the criterion is met is based on an estimation of a deviation value (a

mathematical difference value), representative of a deviation between an estimated transmission quality (estimated RSSI) and a target transmission quality. See Abstract; col. 5, lines 26-57; and col. 6, line 14 through col. 7, line 6.

Regarding claim 49, Haartsen discloses all of the limitations of claim 46, and also discloses that the estimated transmission quality is represented by a received signal power (RSSI). See col. 5, lines 26-57.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 33, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu in view of well known prior art.

Regarding claim 33, Vembu discloses everything claimed as applied to claim 31 above but Vembu fails to disclose that the estimated transmission quality is represented by an estimated signal-to-interference ratio. However, the Examiner takes Official Notice that it is well known in the art that an estimated signal-to-interference ratio is a good indication of the quality of a transmission. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vembu's invention by representing the estimated transmission quality by an estimated signal-to-interference ratio, in order to provide a good indication of the quality of the transmission.

Regarding claims 36 and 37, Vembu disclose everything claimed as applied to claim 28 above, but Vembu fails to disclose whether the method is performed in the uplink or downlink transmission direction of the mobile radiocommunication system. However, the Examiner takes Official Notice that it is well known in the art to perform power control in both the uplink and downlink transmission directions of mobile radiocommunication systems, and that performing power control maximizes received signal quality. It would have been obvious to one of ordinary skill in the art at the time of the invention to perform Vembu's power control method in either the uplink or downlink transmission direction of the mobile radiocommunication system, in order to maximize the received signal quality in the uplink and downlink directions.

8. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen et al. in view of well known prior art.

Regarding claim 48, Haartsen discloses everything claimed as applied to claim 46 above but fails to disclose that the estimated transmission quality is represented by an estimated signal-to-interference ratio. However, the Examiner takes Official Notice that it is well known in the art that an estimated signal-to-interference ratio is a good indication of the quality of a transmission. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haartsen's invention by representing the estimated transmission quality by an estimated signal-to-interference ratio, in order to provide a good indication of the quality of the transmission.

Allowable Subject Matter

9. Claims 2-18, 21, 25-27, 32 and 35 are allowed.

10. Claims 47 and 50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Moore, whose telephone number is (703) 308-

6042. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached at (703) 305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ken Moore

3/31/04

Marsha D Banks-Harold

MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600